Potential Solutions for Odor Problems at Central Landfill

Gas Collection System Ž Potential Solutions

1. Recalculate the theoretical amount of gas generated by the landfill to better estimate the actual volume of gas generated by the landfill and to ensure excess system capacity by modifying existing or designing future system.

2. Ensure excess capacity by designing gas collection system to collect excess gas not accounted for in theoretical modeling. The gas collection system should be able to collect and treat 125% of the estimated gas generated by the landfill.

3. Ensure future gas collection capacity for Phase IV is over designed and is installed during filling.

4. Enhance effectiveness by better matching the system with the age of the trash and the amount of gas it will generate.

5. Monitoring should be conducted to identify any areas (whether they have a gas collection system installed or not) that are producing gas not currently captured by the current gas collection system. If the monitoring reveals that gas is escaping to the atmosphere, appropriate gas collection systems should be installed or enhanced in these areas.

6. Conduct monthly monitoring to ensure current system is adequate.

7. Monitor surface emissions more frequently.

8. Anticipate the growth of the landfill and the need to maintain the gas collection system. The gas collection system must be maintained so that when sections of the gas collection system fail due to settlement or growth of the landfill, gas collection systems are either repaired or installed.

9. Ensure mitigation is finished ASAP & successful.

10. Install more collection wells/trenches if current enhancements are not adequate.

Gas Control System Ž Potential Solutions

1. Institute reliable back-up control systems in case the flares or power plant fail.

2. Establish remote monitoring system of flares to automatically detect and record time and nature of any system malfunction.

3. Monitor/sample emissions from flares at landfill and power plant.

4. Install a gas storage collection tank and use turbine engines to generate electricity.

Other Ž Potential Solutions

1. Limit Phases II and III –the top areas-- to commercial non-rotting waste and divert municipal waste (rotting garbage) to Phase I which is at a lower elevation and is not currently generating gases.

2. Approve Phase IV operation in April 2000 to allow diversion of municipal waste out of Phases II and III.

3. To control open face activities, establish a transfer operation to consolidate loads, and thereby limit litter, etc.

4. Reduce the operational area of where waste can be disposed of each day.

5. Limit the maximum daily tonnage of waste permitted for disposal to the calculated in-state waste maximum.

6. RI RRC adopt a Good Neighbor Policy which goes beyond the requirements set out in the regulations by:

    a) refusing to accept suspected out-of-state loads;

    b) correcting odor and methane problems before regulatory agencies take enforcement actions;

    c) anticipating potential problems and taking appropriate action before they escalate into serious problems.

7. Control water in Phase I by a dome, heavy vinyl cover, then cover with asphalt with proper water drainage.

8. Improve densification of material being landfilled by better sorting it, using hammermill machinery, and draining out liquids.

9. Establish more objective standards for determining odor violations.

10. Receive independent verification/investigation re: odor.

11. Conduct further research on the cause of odor.

12. Improve evaluation system to determine odor sources (qualified personnel).

13. Plant additional trees for added oxygen.

Cover Ž Potential Solutions

1. Expedite schedule for installing permanent cap for Phase II and III. By phasing this project, capping could possibly begin within the 2000 calendar year.

2. Work with URI on vegetation issue and development of hardy grass seed mixtures.

3. Allow only earthen daily cover on top of the landfill (Phase II & III).

4. Require earthen daily cover material on certain portions of the landfill or all of the landfill.

5. Limit current use of approved alternative covers to Phase IV only.

6. For Recovermat or other non-earthen cover, require 12" instead of 6".

7. For non-earthen alternative daily cover, require more stringent interim measures than required (ie: at the end of every week, intermediate cover must be applied vs. waiting 6 months, or the entire area filled during the week most be covered with 6" gravel and posi-shelled, etc.).

8. Use intermediate cover for newly disposed garbage.

Request for more information Ž For Potential Solutions

Cover:

1. What are other facilities using?

2. What is the best type of daily cover?

3. Need further clarification of data on daily, intermediate, final cover

4. What is the appropriate amount of the various covers?

5. Examine adequacy of state regulations on cover

Other:

6. Research success at other landfills in dealing with odor & determine what is applicable to Central

7. Demographics/metrics of when/where odors occur